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### Water and Communities: Emerging Issues for Water Organizations

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**WATER AND COMMUNITIES:  
EMERGING ISSUES FOR WATER ORGANIZATIONS**

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**WATER ORGANIZATIONS IN A CHANGING WEST**

**Natural Resources Law Center  
University of Colorado School of Law  
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# **WATER AND COMMUNITIES**

## **Emerging Issues for Water Organizations**

### **I INTRODUCTION**

#### **A. Summary**

For over one hundred years, western water organizations have focussed upon supplying water for urban and agricultural constituencies. Smaller and more agrarian communities have typically addressed this problem by creating water organizations dependent upon adjacent rivers sometimes augmented by well fields or irrigation transfers. As end of the 19th century approaches, however, the planning horizon for multiple purpose water use is widening. Expansion in multiple purpose use brings with it a host of new "pressures" on both western river communities and the water organizations who service them, thus compelling a re-examination of their traditional connectivity. Linkages between communities on one hand and their water institutions on the other hand are becoming increasingly complex with profound implications for each. This situation is two-edged. Modifications in a water organization and the services it provides will affect the service-area community; the nature of this effect upon communities and their sense of "place" is a legitimate cause of concern. On other side of the issue, is the equally important question that calls for exploring how changes in the socio-economic, political, and hydrologic milieu of river communities touch upon water institutions. Early signs indicate the models of governance, organization, and policy used to build agrarian water institutions in the West are being re-evaluated in light of alternative models better suited to sustain them. This outline highlights factors affecting the linkage between western river communities and the water agencies that serve them, and suggests the direction of recent trends within these organizations.

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Water Quality Statutes 1970s; National Environmental Policy Control Act 1969 (PL 91-190); Clean Water Act 1972, (PL 92-500)/Amended 1977 (PL 95-217); Marine Protection Research and Sanctuaries Act 1972, (PL 92-532); Safe Drinking Water Act 1974, (PL 93-523); Federal Water Pollution Control Act 1977, (PL 95-217).

Water Quality Statutes 1980s; Comprehensive Environmental Response, Compensation and Liability Act 1980, (PL 96-510)/reauthorized 1986 (PL 99-116); Safe Drinking Act Amendments 1986, (PL 99-399).

## **II. WATER, COMMUNITY, AND THE WEST**

### **A. Appropriate Unit and Level of Analysis**

1. Investigators of western water issues and policy have long sought an appropriate hydrologic unit and level of analysis (Brown, 1981). Studies focus upon river basins (e.g. Lundqvist et. al., 1985; Teclaff, 1967), special districts (e.g. Corbridge, 1984; Goodall, 1978; Gottlieb, 1991); or rivers themselves (Fradkin, 1968; Palmer, 1990; Worster 1985). More recently, Gary Weatherford has suggested the expanded concept of a "hydrocommons" tying together service areas with a hydrologic basin (Weatherford, 1990).
2. Many major cities of the world are inextricably connected to rivers and this is especially true of the western United States where most all of the major urban areas were founded beside rivers and many became state capitols (e.g. Denver, Austin, Reno, Sacramento).
3. While many of river communities grew into major urban areas, an equal number remained agrarian, small, and rural. It is this smaller type of western river community that is caught in a vortex of strains as new demands are put upon its traditional water supply.
4. Until recently, few had ventured to study the linkage between water and community (e.g. Glick 1970; Goldschmidt, 1947; Taylor, 1949; Wittfogel, 1957), but there are some indications of renewed interest in the topic (Kemmis, 1990; Walton, 1992).
5. Shifts in the patterns of western living are triggering an increasing complexity in "Multiple Purpose" demands on on rivers and their water supply organizations.

## **III. INCREASING COMPLEXITY OF MULTIPLE PURPOSE USES**

### **A. Historic Multiple Purposes**

1. "Multiple Purpose" is a term used to refer to the different and often competing uses for water within a specific region. Traditional Multiple Purpose uses have been:  
(a) Navigation/transportation;



- (b) Mining and resource extraction;
- (c) Agriculture;
- (d) Power generation;
- (e) Sewage disposal;
- (f) Domestic drinking, municipal, and industrial.

**B. New Multiple Purposes**

1. Driven by a variety of socio-economic, political and hydrologic factors, new uses have been added:
  - (a) Greater demand for domestic water;
  - (b) Instream flows for fish/wildlife habitat;
  - (c) Water for recreation;
  - (d) Public Trust Doctrine and aesthetic enjoyment;
  - (e) Federal Reserve water rights for government lands;
  - (f) Tribal water rights.

**IV. DYNAMICS AFFECTING WESTERN RIVER COMMUNITIES AND THEIR WATER SUPPLY ORGANIZATIONS**

**A. Demographics**

1. Pacific coast and mountain states have experienced rapid population growth over the past 50 years. The 11 western states grew 260 percent between 1940 and 1990 (13 million to over 50 million). This increase has taken place more in metropolitan than rural areas, been accompanied by more women entering the work force, and brought greater racial and ethnic diversity. The impact for water services has:
  - (a) Increased competition for existing water supply among multiple purpose users;
  - (b) Transformed employment patterns;
  - (c) Shifted agricultural production and crop patterns;
  - (d) Reapportioned political and economic resources from East to West and rural to urban within these states;
  - (e) Realigned historic political coalitions.

**B. Restructuring of Public Opinion**

1. The past 50 years have witnessed significant changes in the way Americans think about the environment (Leiss, 1972;

Nash, 1967, 1989; Wilkinson 1990). As a result, two recent trends in community opinion are important:

- (a) The re-examination of the "Myth of Dominion" calling into question the Judeo-Christian ethic that nature exists outside and for the use of the human race;
- (b) The re-examination of the "Myth of Technology" calling into question the belief that science and engineering provide the best answers for resource "problems";

**C. Increasing Costs of Conflict Resolution**

1. Conflicts arising from clashes between multiple purpose users have grown variety, number, and intensity. Accordingly, the price of litigation, surface and groundwater adjudication, and negotiation have increased. The increased costs of conflict management place a disproportionate burden upon smaller river communities and their water organizations due to limited fiscal resources.

**D. Increasing Emphasis on Quality Standards**

1. Early efforts to standardize water quality had little effect upon pollution (e.g. Rivers and Harbors Act of 1899, 1910 and 1924; Public Health Service Act of 1912). Beginning in the late 1960s and continued into the 1970s, the federal government embarked upon an effort to improve water quality (see Water Quality Statutes 1970s); this trend was continued into the 1980s (see Water Quality Statutes 1980s).
2. Communities and their water organizations have been affected by these statutes in several ways:
  - (a) Communities are asked to comply with federal water quality standards but often do not have the necessary fiscal or technical resources. At first there was some assistance in this effort but wounded federal and state funding has been reduced.
  - (b) Increasingly, the maintenance of instream values for fish and wildlife become issues of water quality as

well (e.g. conflict in the Sacramento River Basin over water quality is also an issue of endangered species).

#### **H. Hydraulic Connectivity**

1. At one time western communities could be characterized as discrete units of social organization. The engineering developments of the past 50 years, however, have served to tie communities, farms, and urban areas into a complex intertie of "hydraulic plumbing". These networks of river systems, canals, ditches, water banks, tunnels, and aqueducts simultaneously open new responsibilities and options for western water users.

### **V. EFFECT OF COMMUNAL CHANGES ON WESTERN WATER ORGANIZATIONS**

#### **A. Changes in Governance**

1. The net effect of the above events and changes in communities has been to exert new pressures on the governance mechanisms of the water institutions who serve them (De Young, 1982; Goodall, 1978; Leshy, 1982):
  - (a) Growing public interest in water policies;
  - (b) Litigation questioning the decision rules for recruitment of governing boards of water districts (e.g. Salyer Land Company v. Tulare Lake Basin Water Storage District, 410 U.S. 719 (1974); Ball v. James 451 U.S. 355 (1981);
  - (c) Increasing conflict between board directors with respect to mission, staffing, and multiple purpose priorities. Rancor between directors of water supply organizations has become especially high in those areas where the transition from agriculture to urban is taking place.

#### **B. Changes in Management Staffing and Style**

1. The role of water district managers also appears to be in transition. Traditionally, the "profile" of a water supply organization manager might be:
  - (a) A male engineer, who worked his way up;
  - (b) Who is often uncomfortable in the public eye;

- (c) Tends to emphasize structural solutions.
- 2. A newer profile of water district manager is being expanded to:
  - (a) Include women (there are three women general managers of irrigation districts in one of my study basins (Sacramento River Basin);
  - (b) Non-engineering backgrounds such as law or policy;
  - (c) Recognize the role of public awareness and media;
  - (d) Be open to non-structural solutions to water supply issues (e.g. demand management, markets, conservation).

C. Re-evaluation of Traditional Mission

- 1. The growing list of multiple purpose uses is placing western river communities and their water organizations in a crossfire of pressures. New constraints appear to be forcing many agrarian water organizations to rethink their historic mission. This adjustment is often made more difficult since enabling legislation specifies compulsory service compelling them to supply water for one particular usage. In 1890 the key demand placed on agrarian water districts was to provide water for agriculture or livestock. In 1990, however, the problem is vastly different as other multiple purpose uses have grown.
- 2. In the Virgin River Basin of southwestern Utah, for example, one can witness all of these forces at work. The region surrounding St. George, Utah is one with roots deep in a Mormon agricultural tradition. Growing multiple purpose usage resulted in a court order for river adjudication being filed in 1980; a process still under way.
  - (a) Growth: From 1980 to 1988 population in Washington County, Utah increased 67 percent (26,065 to 44,000). Projected population for year 2000 is 60,000. This trend places hard pressure on social services and agricultural land (Cooperative Study, 1990);
  - (b) Tribal: The Shivwits Band of the Paiute Indian Tribe

has filed for a reserved right on the Virgin River tributary of the Santa Clara River for 11,355 AFY;

- (c) Recreation: Washington County has four state parks and Zion National Park within its boundaries. In addition, Dixie National Forest (USFS) and the Dixie Resource Area (BLM) also provide a great attraction for outdoor recreationists. The Virgin River or its tributaries runs through many of these facilities. Conflicts are increasing with respect to federal reserve rights present between Zion National Park and the Washington County Water Conservancy District over a proposed dam site above the Park.
- (d) Endangered Species: Over 80 species of fish, wildlife, and plants are listed as either threatened and endangered list in the Virgin River Basin. The Desert Tortoise is embroiled in controversy having stopped the Rocky Mountain Ventures project. Four fish found in Virgin River are listed (Woundfin Minnow, Virgin River Roundtail Chub, Virgin River Spinedace, Bonneville Cutthroat Trout (Cooperative Study, 1990).

## **VI. EMERGENCE OF "PARALLEL GROUPS"**

### **A. Institutional Change and Adaption**

1. Students of public institutions have long studied the way in which change and adaptation take place. Of interest to them has been to observe what occurs when exogenous forces--not in existence at the time of the creation of an institution---begin to significantly hinder its ability to function. Adaptation emerges and/or other institutions emerge to provide requisite social functions. One of the more interesting occurrences taking place in the western natural resources policy arena is, I believe, the emergence of the "parallel group".
2. The term parallel group can best be described as a type grass roots organization being found with greater frequency in western river basins. It is called "parallel" due to

the fact it seems to arise along side of existing private and public units; it does not seek to replace these agencies of policymaking but instead arises in response to perceived stalemate. Moreover, the parallel groups tries to search for consensus among existing players on the multiple purpose field.

3. A rough hypothesis on the probability of the emergence of a parallel group is their emergence depends upon the level of social frustration and statement between multiple purpose interests in a given region. Characteristics are:
  - (a) Leaders and members are convinced the optimal path to the future is through an inductive and incremental approach. Grassroots with a local or regional focus;
  - (b) The mission of a parallel group is to raise the consciousness of its community to the uniqueness of their "place", and do provide a forum where otherwise antagonistic members of the community can work toward the future;
  - (c) Leaders of successful parallel groups are often creative and flexible people who recognize the necessity of adopting a non-ideological public stance that will assist in establishing legitimacy.
  - (d) Individual members believe they have come to a point at which there is more utility to be derived by collective action than can be attained from either the politics of "no" or withdrawal (Bromley, 1992; Kemmis, 1990; Ostrum, 1992).
  - (e) Leaders frequently take non-traditional approaches to issues and willingly incorporate concepts from the arts and humanities.
  - (f) Effective parallel groups value the fundamentals of coalition building and negotiation, acquisition of outside funding, establishing strong linkages with state and federal legislators, and are very media conscious.

3. Examples of parallel groups would be the Family Water Alliance in Maxwell, California; the Telluride Institute in Telluride, Colorado; the Tonantzin Land Institute in Albuquerque, New Mexico; and the Northern Lights Research and Education Institute in Missoula, Montana.

## VII. SUMMARY

Much has been written about changes taking place in the American West as the end of the 20th Century approaches. The nature of these developments is perhaps even more important for the smaller, more agrarian, communities found along western rivers. In these communities---and the water organizations which serve them---a host of emergent new pressures are surfacing due to the expansion of multiple purpose demands. In response to new challenges, one can witness an effect upon the governance, management, and mission of river community water institutions. Of particular interest, is the recent arrival of a new actor on the water scene: the Parallel Group. These groups seem to arise as a consensus building associations when the single mindedness of other institutions has brought about the politics of "stop". If we are to maintain a sense of "place" in our river communities, then some support and study should be devoted to nurturing these innovative groups.

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